DELTA 10 F

03.LDF004.T12
03.LDF004.T25
03.LDF004.T45
03.LDF004.T12.WS
03.LDF004.T25.WS
03.LDF004.T45.WS

User's Manual Rel 1.2 **GB**

D.T.S. Illuminazione srl - ITALY
http://www.dts-lighting.it

DTS
The Lighting Company

CE IP65

Made in Italy

Le informazioni contenute in questo documento sono state attentamente redatte e controllate. Tuttavia non è assunta alcuna responsabilità per eventuali inesattezze. Tutti i diritti sono riservati e questo documento non può essere copiato, fotocopiato, riprodotto per intero o in parte senza previo consenso scritto della D.T.S .
DTS si riserva il diritto di apportare senza preavviso cambiamenti e modifiche estetiche , funzionali o di design a ciascun proprio prodotto. D.T.S non assume alcuna responsabilità sull'uso o sull'applicazione dei prodotti o dei circuiti descritti.

The information contained in this publication has been carefully prepared and checked. However, no responsibility will be taken for any errors. All rights are reserved and this document cannot be copied, photocopied or reproduced, in part or completely, without prior written consent from D.T.S.
D.T.S. reserves the right to make any aesthetic, functional or design modifications to any of its products without prior notice. D.T.S. assumes no responsibility for the use or application of the products or circuits described herein.

Les informations contenues dans le présent manuel ont été rédigées et contrôlées avec le plus grand soin. Nous déclinons toutefois toute responsabilité en cas d'éventuelles inexactitudes. Tous droits réservés. Ce document ne peut être copié, photocopié ou reproduit, dans sa totalité ou partiellement, sans le consentement préalable de D.T.S.
D.T.S. se réserve le droit d'apporter toutes modifications et améliorations esthétiques, fonctionnelles ou de design, sans préavis, à chacun de ses produits. D.T.S. décline toute responsabilité sur l'utilisation ou sur l'application des produits ou des circuits décrits.

Las informaciones contenidas en este documento han sido cuidadosamenteredactadas y controladas. Con todo, no se asume ninguna responsabilidad por eventuales inexactitudes. Todos los derechos han sido reservados y este documento no puede ser copiado, fotocopiado o reproducido, total o parcialmente, sin previa autorizaciónescrita de D.T.S.
D.T.S. se reserva el derecho a aportar sin previo aviso cambios y modificaciones de carácter estético, funcional o de diseño a cada producto suyo. D.T.S. no se asume responsabilidad de ningún tipo sobre la utilización o sobre la aplicació
n de los productos o de los circuitos descritos.

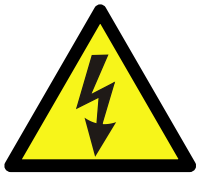
INDEX:

1- SYMBOLS 4
2- GENERAL WARNING 4
3- GENERAL WARRANTY CONDITION 4
4- TECHNICAL FEATURES 5
5- ACCESSORIES 5
6- IMPORTANT SAFETY INFORMATION 7
6.1 Fire prevention
6.2 Prevention of electric shock
6.3 Protection against direct light radiation
6.4 Safety
6.5 Level of protection against the penetration of solid and liquid matter
7- VOLTAGE AND FREQUENCY 8
8- INSTALLATION 8
8.1 Safety cable
8.2 Protection against liquid
8.3 Movement
8.4 Risk of fire
8.5 Forced ventilation
8.6 Ambient temperature
9- MAINS CONNECTION 9
9.1 Protection:
10- DMX SIGNAL CONNECTION 10
10.1 DMX Addresses
10.2 Selecting the DMX address
11- FIRMWARE UPDATING 11
12- DISPLAY FUNCTIONS 12
13- AUTOMATIC OPERATION 17
13.1 CUPr-RAIn-CU01/CU16-Wh01/Wh16
13.2 ChPr MASTER/SLAVE
13.3 Rec mode
14- PERIODIC CLEANING 19
15- PERIODIC CONTROLS 19
16- REPLACING THE LENSES 20
17- DMX PROTOCOL 21

1- SYMBOLS

Graphic symbols used on this manual

THIS SYMBOL INDICATES A HOT SURFACE



THIS SYMBOL INDICATES ELECTRIC SHOCK RISK

THIS SYMBOL INDICATES GENERAL RISK

THIS SYMBOL MEANS "DO NOT PLACE THE UNIT ON INFLAMMABLE SURFACES"

THIS SYMBOL INDICATES THE MINIMUM DISTANCE TO BE KEPT BETWEEN THE DEVICE AND THE LIT OBJECT

2- GENERAL WARNING

Read the instruction contained in this user manual carefully, as they give important information regarding safety during installation , use and maintenance.
The device is not for domestic use and must be installed by a qualified electrician or experienced person.
Always disconnect the device from the mains before replacing the lamp.
The lamp must be replaced if it has been damaged or deformed by prolonged use or overheating.
The device must always be equipped with an efficient ground connection.

3- GENERAL WARRANTY CONDITIONS

The unit is guaranteed for 24 months from the date of purchase against manufacturing material defects.

4- TECHNICAL FEATURES

DELTA 10 F RGBW is a new colour changer with LED technology, with a high protection rating (IP65), ideal for use both indoors and outdoors.
DELTA 10 F RGBW is the brightest LED colour changer in its category: 7.000 Lux at 5 m.
In fact its light source is composed of 240 LEDs (60 Red, 60 Green, 60 Blue, 60 White) with 19.500 total lumens.
Five interchangeable lenses sets are available: spot (12°), medium flood (25°), wide flood (45°), elliptical (15° x 45°) and asymmetrical, offering different light beam projection angles.
The LEDs even distribution pattern featuring the same quantity of red, green, blue and white LEDs guarantees high mixing quality for RGBW colours and a uniform projection on surfaces, no matter what colour is used. DELTA 10 F RGBW can generate 16 million colours; colour temperature can be varied over a linear range from 2800°K to 6500°K.
DELTA 10 F RGBW offers an IP65 protection rating, making it suitable for a vast variety of uses, either outdoors or indoors.
DELTA 10 F RGBW has a full-range AC 90-260 V, 50-60 Hz power supply, and therefore ensures reliable operation even in the case of voltage drops. DELTA 10 F RGBW can be used without external consoles, in chains of colour changers including up to 32 units.
All functions of the internal DELTA 10 F RGBW menu can be programmed and memorized in a sequence of events (including different luminosity settings, generation of 16 million different colours, special effects, etc.), which can be played back in a predetermined sequence over an entire week.
The DELTA 10 F RGBW can operate in vertical, horizontal or inverted positions, and can be positioned on the floor or ground, or fitted to trusses; it is complete with a practical accessory.
DELTA 10 F is also available in W+A version (180 white LEDs + 60 amber LEDs).
On demand, the unit is also available in RGBA version.

DELTA 10 F RGBW
Cod. 03.LDF004.T12 Spot lenses
03.LDF004.T25 Medium flood lenses
03.LDF004.T45 Wide Flood lenses
03.LDF004.T12.WS Spot lenses, Wireless DMX ready (external Antenna needed)
03.LDF004.T25.WS Medium flood lenses, Wireless DMX ready (external Antenna needed)
03.LDF004.T45.WS Wide Flood lenses, Wireless DMX ready (external Antenna needed)
• Electronic power supply 90-260VAC 50/60 Hz • Grey glitter finish

LED technology
240 LEDs (60 Red, 60 Green, 60 Blue, 60 White)
LEDs average lifespan: 100.000 hours
Total luminous flux 19.500 Lumens
Luminosity 7.000 Lux at 5 m (spot lenses)
RGBW colour generation (16 million colours)
Colour temperature variable on a linear range (2.800°K÷6.500°K); no infrared / no ultraviolet emissions
Lenses sets
Spot (12°), Medium flood (25°), Wide flood (45°), Elliptical (15° x 45°), Asymmetrical
Lenses sets are interchangeable
User interface
OLED display + 4 buttons; Infrared remote control
Independent operation
Fully programmable via built-in user interface
Master or Slave capability (chains of up to 32 interconnected units)
Control
Remotely controlled by cable or wireless (on request); USITT DMX 512 serial digital protocol (reception / transmission)
DMX channels: 10
Protection
Full IP65 protection level

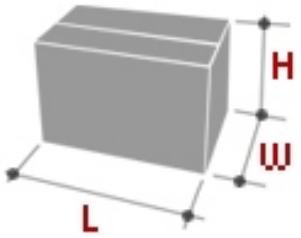
4- TECHNICAL FEATURES

Power supply / consumption
Full range AC 90-260V, 50-60Hz
Power consumption:
* 90 V – 5,3 A – 480 W * 120 V – 4 A – 480 W
* 230 V – 2,1 A – 480 W * 260 V – 1,85 A – 480 W
Thermal
Operating ambient temperature: -10° / +40°
Weight
18Kg
Finishes
Black, white
Certifications and safety
CE certification; LED class: Class 2 LED product

Dimensions

Packaging Dimensions (LxWxH)
630 x 500 x 660 mm
Weight: 20 Kg

Unit Dimensions (LxWxH)
454x205x443mm
Weight: 18 Kg



5- ACCESSORIES

Optional (on request)
Lenses sets
- Lenses set Medium flood (25°) (cod. 03.LK.064)
- Lenses set Wide flood (45°) (cod. 03.LK.065)
- Lenses set Elliptical (15° x 45°) (cod. 03.LK.063)
- Diffusion Frost Glass (cod. 0506V022.F)
- Wireless DMX receiver card (cod. 03.LA.012)
- External 2dBi IP65 Omnidirectional Antenna (cod. 0508A040)
- "C" Clamp G60 black (max. load 50Kg) (cod. 0521A004)
- "C" Clamp G60 chrome (max. load. 50Kg) (cod. 0521A004.20)
- Safety wire (3mm x 60 cm), ring spring catch, max. capacity load 60Kg (cod. 0521A010)

6- IMPORTANT SAFETY INFORMATION

6.1 Fire prevention:

-Never locate the fixture on any flammable surface.
-Minimum distance from flammable materials: 1 m.
-Minimum distance from the closest illuminable surface: 1 m.

-Replace any blown or damaged fuses only with those of identical value. Refer to the wiring diagram if there is any doubt.
-Connect the projector to mains power via a thermal magnetic circuit breaker.

6.2 Prevention of electric shock:

-High voltage is present inside the unit. Isolate the projector from the mains supply prior to performing any function which involves touching the inside of the unit.
-The level of technology inherent in the DELTA 10 F requires the assistance of specialised personnel for all servicing.Please refer to an authorised D.T.S. service centre.
-A good earth connection is essential for proper functioning of the projector.
Never connect the unit without proper earth connection.
-The fixture should be located in places with a good air ventilation.

6.3 Protection against direct light radiation:

-Never turn the unit on if any of the lenses or the glass lenses protection is damaged.
-Never look directly the leds when they are on.

6.4 Safety:

-The projector should always be installed with bolts, clamps and other tools that are capable of supporting the weight of the unit.
-Always use a second safety chain to sustain the weight of the unit in case of the failure of the main fixing point.
-The external surface of the unit, at various points, may exceed 80°C.
Never handle the unit until it's on.
-Never install the fixture in an enclosed area lacking sufficient air flow.
-The ambient temperature should not exceed 40°C.

6.5 Level of protection against the penetration of solid and liquid matter:

-The projector is classified as an ordinary appliance and its protection level against the penetration of solid and liquid matter is IP 65.

.7- VOLTAGE AND FREQUENCY:

Delta 10 F can operate at 90-260VAC, 50 or 60 Hz.

8- INSTALLATION:

Delta 10 F may be either floor or ceiling mounted.
For floor mounting installations, the unit is supplied with four rubber mounting feet on the base.
For ceiling mounted installations, we reccommend the use of appropriate clamps to fix the unit to the mounting surface.
The supporting structure from which the unit is hung should be capable of bearing the weight of the unit, as should any clamps used to hung it. The structure should also be sufficiently rigid so as not to move or shake whilst the Delta 10 F is moving.
The Delta 10 F is fitted with 7 fixing points on the bottom used to attach accessories (clamps, hooks, etc.)
.

8.1 Safety cable:

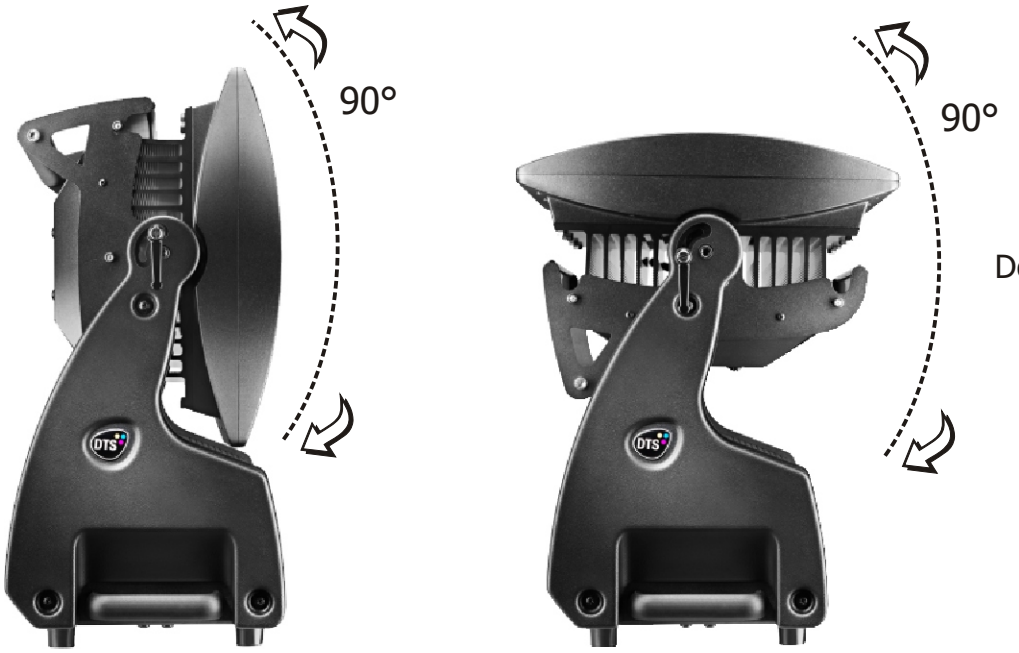
We recommend the use of a safety cable or chain connected to the Delta 10 F and to the suspension truss in order to avoid the fixture accidentally falling should the main fixing point fail. Make sure that the iron cable or chain can bear the weight of the entire unit.
You may attach the safety chain to the holes located on the base of the fixture.

8.2- Protection against liquids

The projector contains electric and electronic components which should under no circumstances come into contact with oil, water or any other liquid. The proper unit functioning would be compromised should this occur.

8.3- Movement

The projector has a maximum movement of 90° for Tilt. DO NOT place any obstructions in the path of the projector's movement.



WARNING
Do not place any object in the path of the projector's movement

8.4- Risk of fire

Each fixture produces heat and must be installed in a well-ventilated place. The minimum recommended distance from flammable material is 1 MT.

Minimum distance from the object being illuminated is 1 MT.

8.5- Forced ventilation

You will note, on inspection, that the unit features various air inlets and cooling fans located on the head of the fixture. These should, under no circumstances, be blocked or obstructed whilst the projector is in operation.
Doing so could cause the fixture to seriously overheat thereby compromising its proper operation.

8.6- Ambient temperature

The projector should never be installed in places that lack a constant air flow. The ambient temperature should NOT exceed 40°C.

9- MAINS CONNECTION:

Delta 10 F can operate at 90-260V, 50 or 60Hz.
Prior to connecting the unit to your mains supply, ensure that the model in your possession correctly matches the mains supply available.
For connection purposes, ensure that your plug can handle at least 400W power consuption.
Strict adherence to regulatory norms is strongly Recommended.

03.LDF004.T12
03.LDF004.T25
03.LDF004.T45

FUSE: 6A T

DMX IN / OUT

MAINS
Electronic power supply
90-260VAC 50 / 60Hz

03.LDF004.T12.WS (WIRELESS DMX READY)
03.LDF004.T25.WS (WIRELESS DMX READY)
03.LDF004.T45.WS (WIRELESS DMX READY)

FUSE: 6A T

MAINS
Electronic power supply
90-260VAC 50 / 60Hz

DMX IN / OUT

Panel connector for
external WIRELESS DMX Antenna

Metal support for
external WIRELESS DMX Antenna

9.1 Protection:

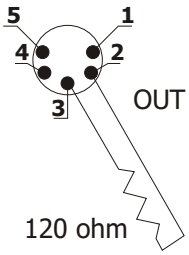
The use of a thermal magnetic circuit breaker is recommended for each Delta 10 F.
A good earth connection is essential for the correct operation of the projector

10- DMX SIGNAL CONNECTION

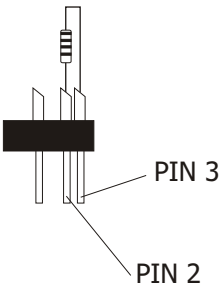
The unit operates using the digital DMX 512 (1990) signal. Connection between the mixer and the projector or between projectors must be carried out using a two pair screened ø 0.5 mm cable and a XLR 5 or 3 pins connector. Ensure that the conductors do not touch each other. Do not connect the cable ground to the XLR chassy
The plug housing must be isolated. Connect the mixer signal to the DMX IN projector plug and connect it to the next projector by connecting the DMX OUT plug on the first projector to the DMX IN plug of the second one.
This way, all the projectors are cascade connected.
NB. If the display showing the DMX address flashes, then one of the following errors has occurred:

- DMX signal not present
- DMX address not valid
- DMX reception problem

For Installations where long distance DMX cable connections are needed, we suggest to use a DMX terminator.
The DMX terminator is a male XLR 3-5 pins connector with a 120 ohm resistor
Between pin 2 and 3.
The DMX terminator must be plugged into the last unit (DMX out panel connector) of the DMX line.



PLACE A 120 OHM RESISTOR BETWEEN PIN 2 AND 3 OF A MALE XRL CONNECTOR AND PLUG IT INTO THE DMX OUT PANEL CONNECTOR OF THE LAST UNIT CONNECTED TO THE DMX LINE



Please note that the XLR connectors installed on the DELTA 10 F have an IP20 protection rate.
Thus, for any application where an IP65 rate is needed, the XLR connectors must be protected within an IP65-rated container.

10.1 DMX Addresses:

DELTA 10 F can be used in 3 different DMX modes: 10 DMX control channels, 6 DMX control channels or CUSTOM mode channels.
Here below is described the DMX channels addressing for the controller when Delta 10 f is set to 10 DMX control channels :

Projector 1	A001	
Projector 2	A011	If you want to select the next projector, just add "10"
Projector 3	A021	
…..	A….	
projector 6	A051	

10.2 Selelcting the DMX address:

1) Press the UP-DOWN key until you reach the required DMX address. The numbers on the display will start to flash (but the new DMX address hasn't yet been set).
2) Press ENTER to confirm your selection. The numbers on the display will stop flashing and the projector is now controlled by the new DMX address.

TIPS: if you keep pushed the UP or DOWN keys, the channels are calculated more quickly and you get a faster selection.

11 FIRMWARE UPDATING

Warning:
This procedure require a base knolewge of computer applications and Windows Hyperterminal program. **Please refer to an authorised D.T.S. service centre.**

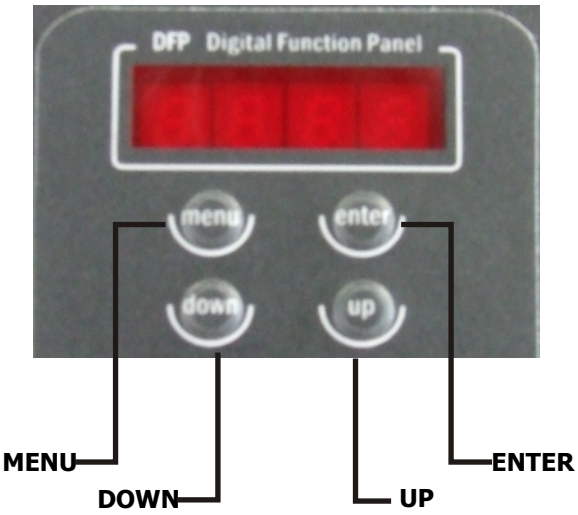
To update the software version of the DELTA 10 F you need:
D.T.S. RED BOX interface (D.T.S. Code: 03.LA.008).
USB-DMX Driver for the D.T.S. RED BOX interface .
D.T.S. Firmware upgrade utility program.
(The driver and the installation procedure are available in our web site www.dts-lighting.it)

Updating the software version.
Please follow the procedure below to perform the update:

1. Install the D.T.S. RED BOX USB-DMX driver on the PC you will use to update the unit software.
2. Connect the D.T.S. RED BOX interface to the PC by using a USB cable.
3. Connect the D.T.S. RED BOX interface to the fixture by using a DMX cable.
4. Download the new software version into the unit by using D.T.S. Firmware upgrade utility program.

It will be possible to download the software from the reserved area of D.T.S. web site:
www.dts-lighting.it.

12- DISPLAY FUNCTIONS



DISPLAY FUNCTIONS

The DELTA 10 F display panel shows all the available functions . Using these functions, it is possible to change some of the parameters and add some functions. Changing the D.T.S. setting can vary the functions of the unit so that it does not respond to the DMX 512 signal used to control it. Carefully follow the instructions below before carrying out any variations or selections.
NOTE: the symbol ☞ shows which key has to be pushed to obtain the desired function.

Software version 1.12

A001 — MENU ☞ Up-Down ☞ **d ISP** — ENTER ☞ Up-Down ☞ **POS 1** — ENTER ☞ Up-Down ☞

- **AA** — Floor position — ENTER ☞
- **UU** — Suspension position — ENTER ☞

REVERSE DISPLAY
Reverses display's reading depending on the mounting position
(On the ground or suspended).

Up-Down ☞ **StbY** — ENTER ☞ Up-Down ☞

- **oFF** — Display OFF — ENTER ☞
- **on** — Display always ON — ENTER ☞

DISPLAY STAND BY
To turn off the display (after 5 seconds)
Or leave it always on.

MENU ☞ Up-Down ☞ **nOdE** — ENTER ☞ Up-Down ☞

- **10CH** — 10 CHANNELS — ENTER ☞ Default DMX Mode = 10 CH
- Up-Down ☞ **6CH** — 6 CHANNELS — ENTER ☞
- Up-Down ☞ **AUH** — AUX MODE — ENTER ☞ Not implemented on FOS 100 SOLO
- Up-Down ☞ **CUSt** — ENTER ☞ Up-Down ☞
  - **SEL** — Custom mode enabled — ENTER ☞
  - **ShoU** — Show Custom settings — ENTER ☞
  - **SEt** — Setting the parameters on Custom Mode — ENTER ☞

DMX MODE
To select DMX mode : 10 ch (default) - 6 ch - AUX - CUSTOM and MACRO settings

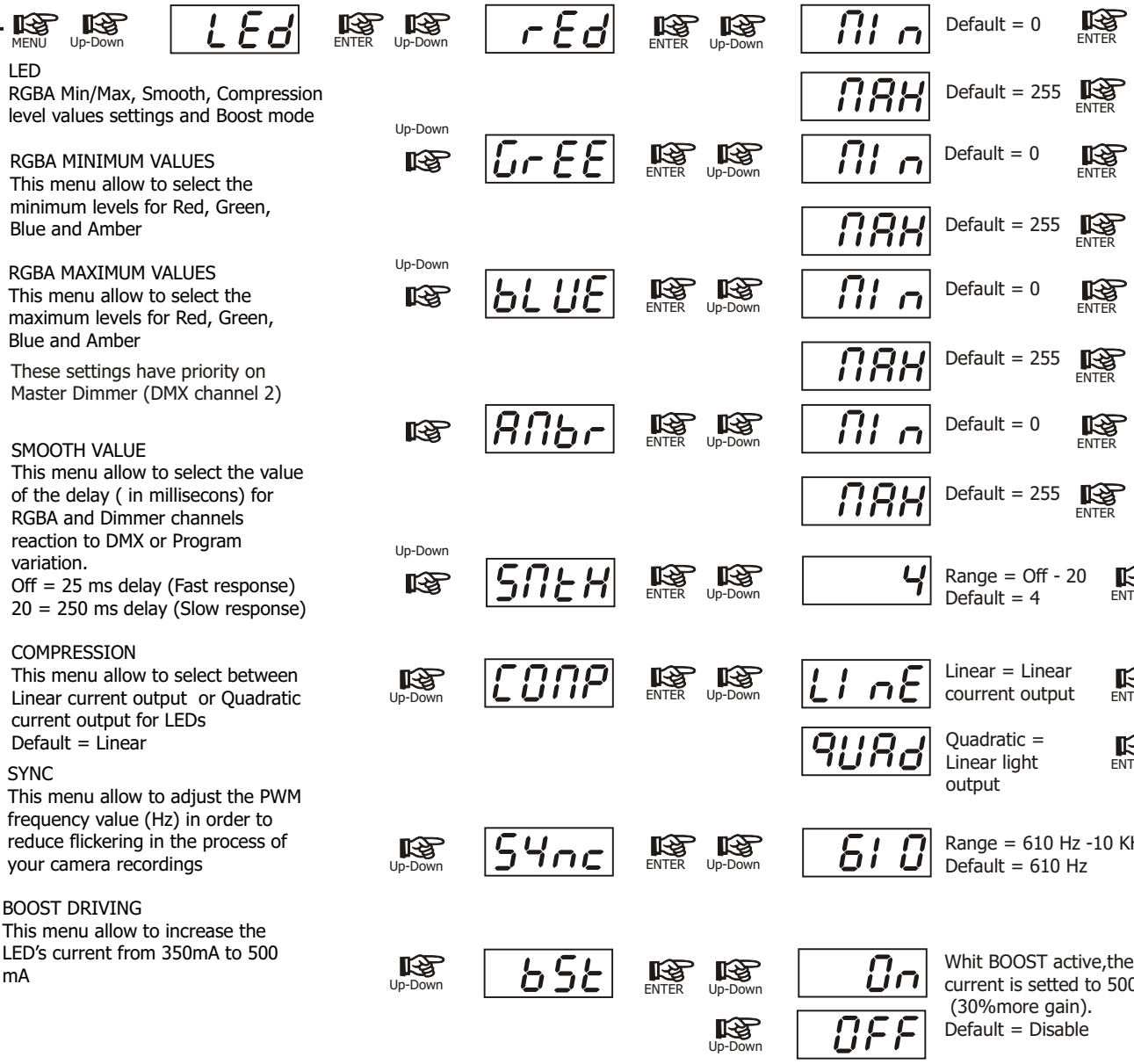
AUX mode let you activate an external ON -OFF control on IR connector.
(Not implemented on dELTA 10 F)

CUSTOM DMX mode let you set the parameters for Shutter, Dimmer, Red, Green, Blue, Amber, White, Ctc, Macro and Function to the desired DMX channels.

MACRO
MACRO Function, enable channel mapping macro rainbow effects
STD (default)

nACr — ENTER ☞ Up-Down ☞

- **Std** — Standard mode enabled (Default) — ENTER ☞
- **EHt** — Show Custom settings — ENTER ☞



LED
RGBA Min/Max, Smooth, Compression level values settings and Boost mode

RGBA MINIMUM VALUES
This menu allow to select the minimum levels for Red, Green, Blue and Amber

RGBA MAXIMUM VALUES
This menu allow to select the maximum levels for Red, Green, Blue and Amber

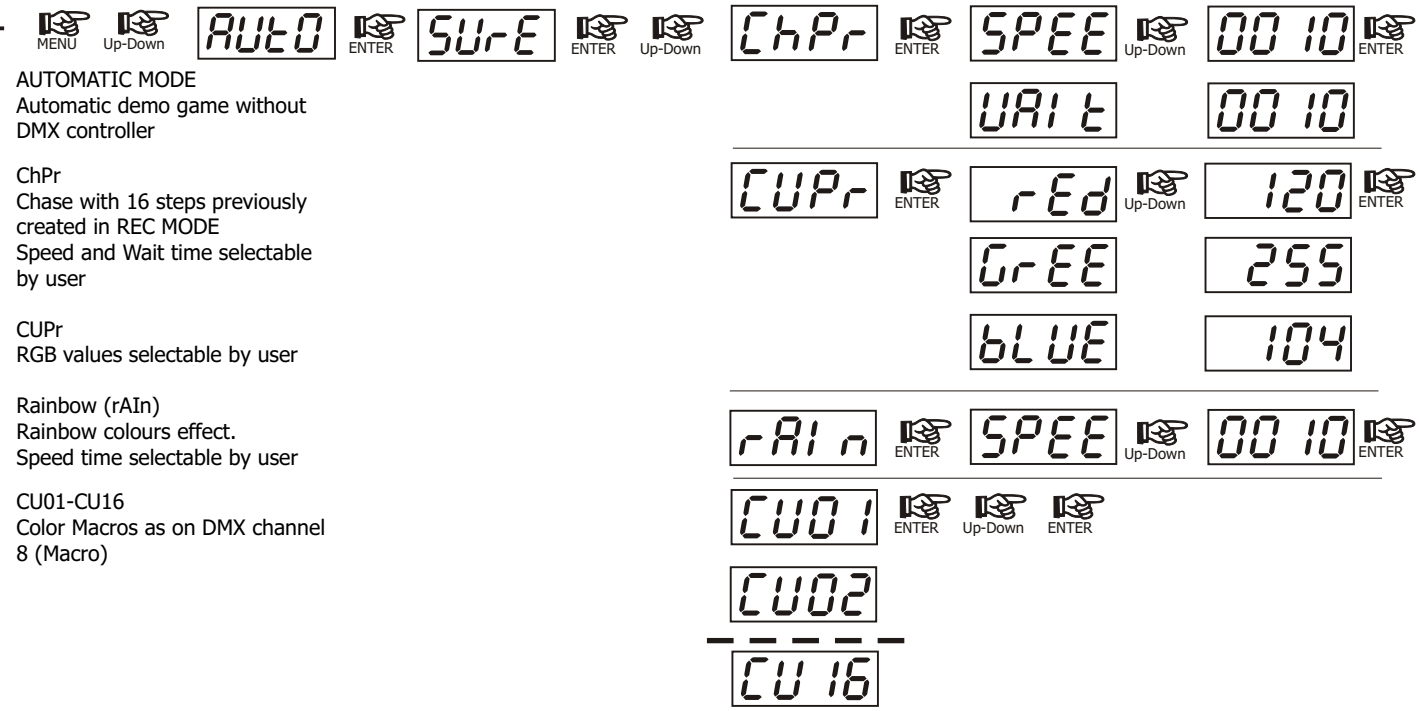
These settings have priority on Master Dimmer (DMX channel 2)

SMOOTH VALUE
This menu allow to select the value of the delay (in millisecons) for RGBA and Dimmer channels reaction to DMX or Program variation.
Off = 25 ms delay (Fast response)
20 = 250 ms delay (Slow response)

COMPRESSION
This menu allow to select between Linear current output or Quadratic current output for LEDs
Default = Linear

SYNC
This menu allow to adjust the PWM frequency value (Hz) in order to reduce flickering in the process of your camera recordings

BOOST DRIVING
This menu allow to increase the LED's current from 350mA to 500 mA



AUTOMATIC MODE
Automatic demo game without DMX controller

ChPr
Chase with 16 steps previously created in REC MODE
Speed and Wait time selectable by user

CUPr
RGB values selectable by user

Rainbow (rAIn)
Rainbow colours effect.
Speed time selectable by user

CU01-CU16
Color Macros as on DMX channel 8 (Macro)

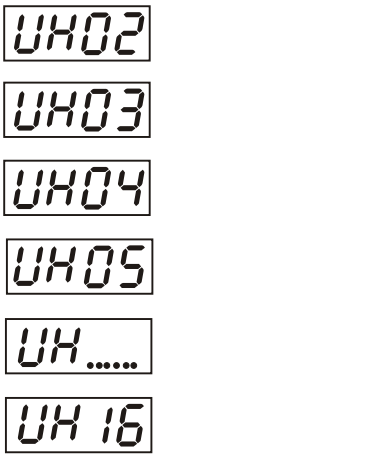
AUTOMATIC MODE
Automatic demo game without DMX controller

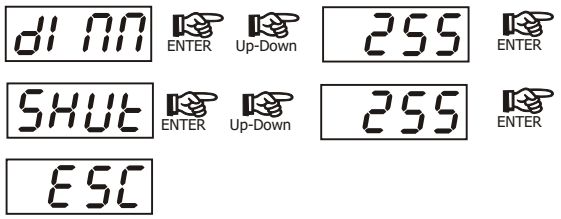
WHITE MACROS
16 macros for White color from 2000 to 7200 ° K

DIMMER
Dimmer level selectable by user as on DMX channel 2 (Dimmer)
Dimmer level is active for all the programs and macros

SHUTTER
Shutter level selectable by user as on DMX channel 1 (Shutter)
Shutter level is active only for CU01/CU16 and Wh01/Wh16 macros

ESC
Esc from Automatic Mode Menu





REC MODE
In DMX Recorder Mode,it is possible to create and store the scenes of the ChPr by using an external DMX controller.
The unit must be setted to 10 channels MODE

DMX Recorder Mode
For the programming of ChPr by using a DMX controller, besides the 10 channels necessary to control the unit a further 3 DMX channels are needed.
So that in RECORDER mode (via DMX) the unit will need 13 channels to be correctly programmed.
The three new DMX channels are:

DMX channel 11 = SCENES channel
From 0-10 = no function (r001)
From 11-255 are displayed the programmable scenes (max 16 scenes from M001 to M0016)

DMX channel 12 = EDIT channel:
-From 0-19 = no function
-From 20-234 the unit runs the configuration given by the received input DMX values.
With the channel SCENES it is possible to pass from one step to the next while with REC it is possible to record the selected scene.
-From 235-255 the unit runs the configuration given by the received input DMX values closing the sequence as last scene.
With the channel REC it is possible to record the selected scene as last scene.

DMX channel 13 = RECORDING channel
Records the set scene with a variation between 0 to 255 (the display flashes indicating that the scene has been recorded).It is advised that you keep the REC channel set to 0 and to run through the 255 only once you have decided to save the scene. If ChPr is not closed, by indicating the last scene (Edit channel between 235-255), in playback mode all 16 scenes will be played through even if not programmed

MENU Up-Down SLAU ENTER SUrE ENTER Up-Down SLU ENTER

ESC

SLAVE MODE
Slave mode for ChPr program.
All slave units will be
synchronised with master unit,
running their own Chpr program.

MENU Up-Down Ir ENTER Up-Down On ENTER

OFF

INFRARED MODE
Infrared remote control.
By activating Ir MODE, it will be
possible to navigate trought the
unit functions by using the D.T.S.
infrared remote control.
D.T.S. Code :0514L008
(Not implemented on DELTA 10 F)

NOTE:
External infrared remote sensor
needed.
D.T.S. Code :03.LA.016

MENU Up-Down UdMX ENTER Up-Down SEL ENTER Up-Down On ENTER WIRELESS DMX SYSTEM ENABLED

OFF WIRELESS DMX SYSTEM DISABLED

WIRELESS DMX
Wieless DMX enabled / disabled.
By activating WDMX MODE, it will
be possible to control Delta 10 F
via D.T.S. ANTENNA Wireless DMX
Transmitter (cod. 03.E1271).
**WIRELESS DMX system on
Delta 10 F is available on
request.**

**NOTE:
Wireless DMX receiver card
needed (cod. 03.LA.012).
External IP65 2dbi
omnidirectional Antenna
needed (cod. 0508A040)**

UnLH ENTER UNLINK = LOG OUT

Logging on Delta 10 F (WIRELESS DMX must be enabled on Delta 10 F unit) UdMX ENTER SEL ENTER Up-Down On ENTER

To log on the Delta 10 F in the WIRELESS system simply press and quickly release the function button on the transmitter .
The transmitter will start flashing rapidly red/green scanning for new free receivers / Delta 10 F units. When a Delta 10 F logs on to the transmitter the LINK green light on transmitter starts to flash rapidly.
After approximately 10 seconds the transmitter will jump back to normal mode and continue transmitting data. The Delta 10 F now try to synchronize to the transmitter.
When synchronized to the transmitter, 2 different modes are possible:
1. Antenna transmitter has detected and transmits a DMX signal, in this mode a solid green light is seen on the transmitter and solid display is seen on Delta 10 F.
2. No DMX signal connected, the Antenna transmitter will flash red/green; display blinking on Delta 10 F.

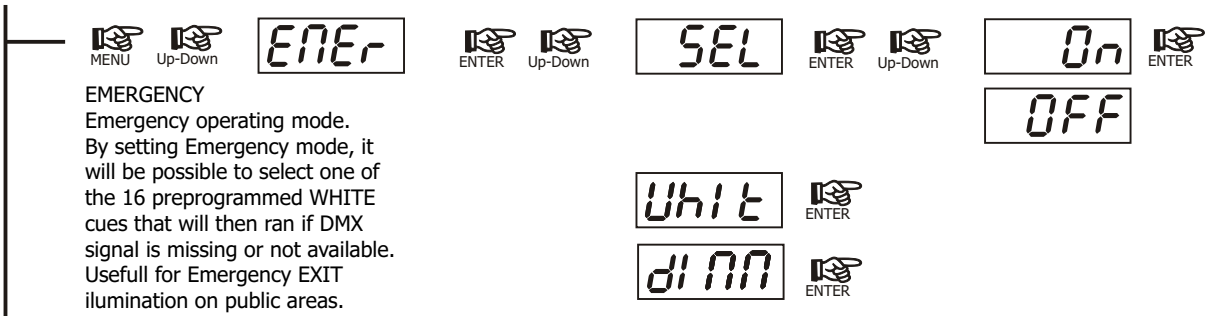
To log Delta 10 F off from a transmitter simply select UNLINK function UnLH under WIRELESS DMX MENU UdMX and press ENTER.
When Delta 10 F is logged off the display is blinking, meaning its available for log in on a new transmitter.

Logging out a Delta 10 F
Select UNLINK function UnLH under WIRELESS DMX MENU UdMX and press ENTER.
When Delta 10 F is logged off the display is blinking, meaning its available for log in on a new transmitter.

Logging out all Delta 10 F linked to a transmitter
Press and hold the function button of the transmitter for about 3 seconds. When the display is blinking on Delta 10 F, it mean that the units are logged out.

Transmitter, Status LED
Flashing red/green, no dmx connected.
Solid green, dmx signal detected and transmitted.
Fast flashing red/green, log in mode (every free Delta 10 F unit, not logged in to any other transmitter, will be logged on)

Delta 10 F, Status
Display blinking, not logged on to a transmitter (free).
Solid display, logged on to a transmitter and receiving dmx data.



EMERGENCY
Emergency operating mode.
By setting Emergency mode, it will be possible to select one of the 16 preprogrammed WHITE cues that will then ran if DMX signal is missing or not available.
Usefull for Emergency EXIT ilumination on public areas.

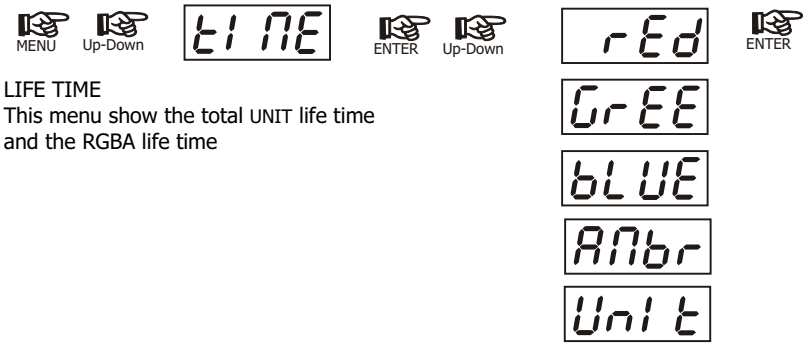
Default = OFF

Default = White 1

Default = 255

DEFAULT
To restore default settings

TEMPERATURE
Unit temperature



LIFE TIME
This menu show the total UNIT life time and the RGBA life time

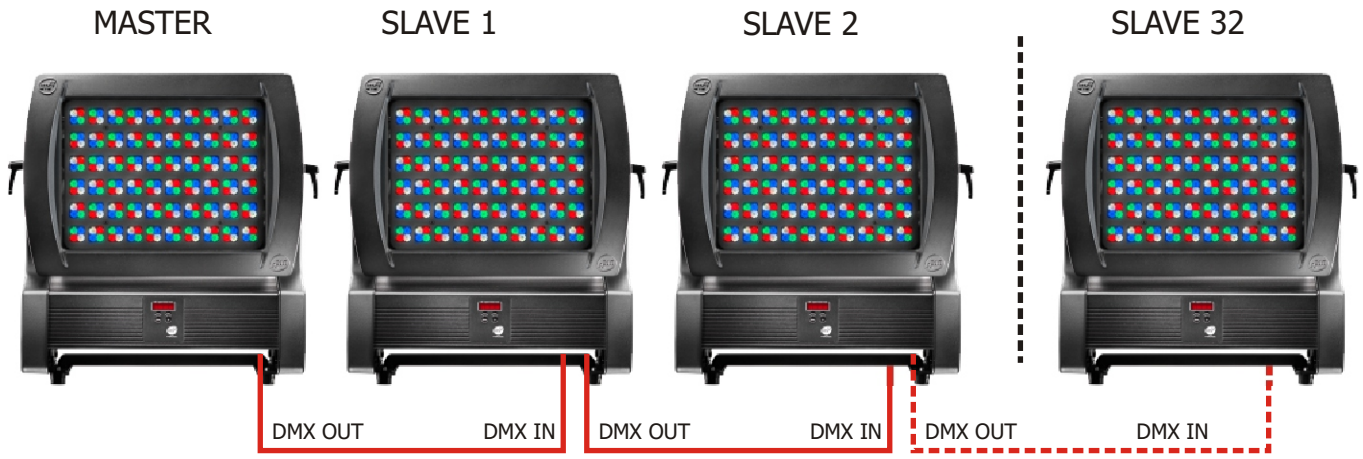
---

TEST MODE
RGBA colours test with rainbow

SOFTWARE
Software version

13-AUTOMATIC OPERATION (AUTO)

DELTA 10 F can work in automatic mode without a DMX controller. First of all connect the projectors with a DMX cable (picture below). A maximum quantity of 32 slave units can be connected to the same Master unit.



To activate Auto mode on the first unit, use the menu to run through the different modes until AUTO appears on the display, and press enter.
Now it is possible to choose between the different pre-programmed games (CUPr-RAIn-CU01/CU16-Wh01/Wh16) or ChPr which is user programmable through REC mode. To confirm game activation press ENTER on the selected GAME.

13.1 CUPr-RAIn-CU01/CU16-Wh01/Wh16

The first unit that will work as a Master should be placed in Automatic mode (AUTO), the other units have to be placed in 10 channels DMX mode (MODE 10CH) and the DMX address should be set at A001.
For RaIn (rainbow) game it is possible to select the speed for the colour changhing (SPEE).
DIMMER function (in AUTOMATIC MODE) is active for all the programs.
SHUTTER function (in AUTOMATIC MODE) is active only for CU01/CU16 and Wh01/Wh16 macros.

13.2 ChPr MASTER/SLAVE

The first unit that will function as a Master must be set to Automatic mode (AUTO), the other units must be set to Slave mode (SLAV), selectable through the menu. In this way all the Slave units will be synchronised with the master and running their own ChPr game.
On the master unit it is possible to vary the Speed time (SPEE) for the colour changhing and the Wait time (UAIt) between the steps.
Speed time and Wait time on the Master, have priority on the slave units.
NB: It is possible to run GA.Pr on the other units even though these do not have GA.Pr programmed. You can do this by setting the units to 10 channels DMX mode (MODE 10CH) and selecting DMX address A001.

13.3 Rec mode

It is possible to program your own game on DELTA 10 F that will then run it in AUTO mode (ChPr).
Each unit can have its own programmed game.
In REC mode the unit must be set to 10 channels mode.
To program the ChPr by using a DMX controller, you need 3 more channels in addition to the 10 channels necessary to control the unit.
So that in RECORDER mode (via DMX) the unit will need 13 DMX channels to be correctly programmed.
The three new DMX channels are:

DMX channel 11 = SCENES channel
From 0-10 = no function (r001)
From 11-255 are displayed the programmable scenes (max 16 scenes from M001 to M0016)

DMX channel 12 = EDIT channel:
-From 0-19 = no function
-From 20-234 the unit runs the configuration given by the received input DMX values.
With the channel SCENES it is possible to pass from one step to the next while with REC it is possible to record the selected scene.
-From 235-255 the unit runs the configuration given by the received input DMX values closing the sequence as last scene.
With the channel REC it is possible to record the selected scene as last scene.

DMX channel 13 = RECORDING channel
Records the set scene with a variation between 0 to 255 (the display flashes indicating that the scene has been recorded).It is advised that you keep the REC channel set to 0 and to run through the 255 only once you have decided to save the scene. If ChPr is not closed, by indicating the last scene (Edit channel between 235-255), in playback mode all 16 scenes will be played through even if not programmed

14- PERIODIC CLEANING

Front lenses Glass:
The dust can reduce the luminous output substantially. Regularly clean the front lenses glass using a soft cotton cloth, dampened with a specialist glasses cleaning solution.

15- PERIODIC CONTROLS

Mechanical parts:
Periodically check all mechanical parts and the gaskets, replacing them if necessary.

Electrical components:
Check all electrical components for correct earthing and proper attachment of all connectors, refastening if necessary.

Fuse replacement:

Locate the fuse, which protect the electronics, in the base of the DELTA 10 F.
Using a multimeter, test the condition of the fuse, replacing it with one of equivalent type if necessary.
Attention: Disconnect mains power prior to removing the projector housing.

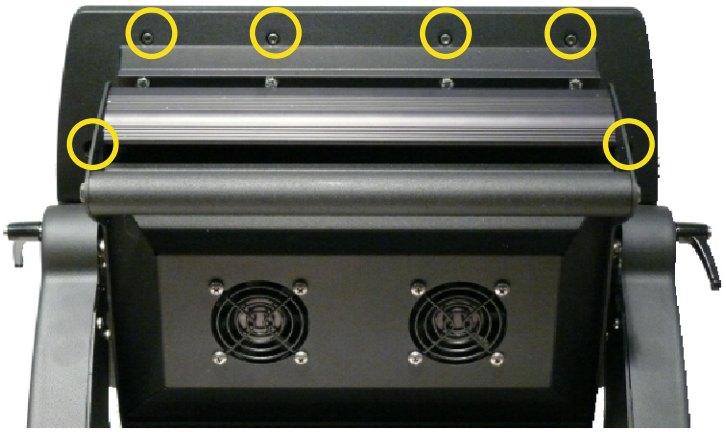
16- REPLACING THE LENSES

Spot (12°) as standard not to be removed, Medium flood (25°), Wide flood (45°), Elliptical (15° x 45°)

- Lenses set Medium flood (25°) (cod. 03.LK.064)
- Lenses set Wide flood (45°) (cod. 03.LK.065)
- Lenses set Elliptical (15° x 45°) (cod. 03.LK.063)

To replace the lenses set Medium flood (25°), Wide flood (45°), Elliptical (15° x 45°) proceed as follow:

Remove these 6 screws on both sides of the rear head assembly

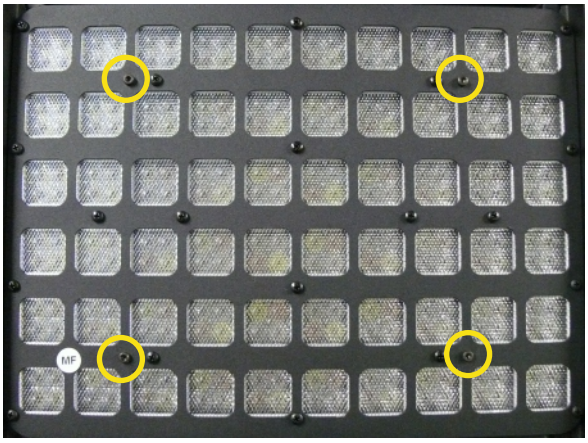


Remove the top head cover

Loose these 4 screws and remove only the frontal metal grid

Frotal LEDs panel with 12° lenses without frontal metal grid

Apply the new lenses set on top of the frotal LEDs panel with 12° lenses and tighten again the 4 screws previously removed



ATTENTION:
Never touch LEDs and Lenses with hands

17-DMX PROTOCOL

10 CHANNELS MODE (Default)

1 SHUTTER
2 DIMMER
3 RED
4 GREEN
5 BLUE
6 AMBER
7 WHITE (Pre-programmed whites at different colour temperatures)
8 CTC
9 COLOURS MACRO
10 FUNCTIONS

DMX CHANNEL	1	Parameter: **SHUTTER**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-9	**5**				**Black-out**
10-19	**14**				**Open**
20-29	**24**				**Black-out**
30-119					**Strobe at variable speed from slow to fast (3400ms-20ms)**
120-149					**Pulse open at variable speed from slow to fast (43s-100ms)**
150-179					**Pulse close at variable speed from slow to fast (43s-100ms)**
180-204	**192**				**Random Strobe (Master and RGBA active)**
205-229	**218**				**Random Strobe (Full)**
230-255	**240**				**Open**

DMX CHANNEL	2	Parameter: **DIMMER**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional dimmer**

DMX CHANNEL	3	Parameter: **RED**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional colour**

DMX CHANNEL	4	Parameter: **GREEN**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional colour**

DMX CHANNEL	5	Parameter: **BLUE**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional colour**

DMX CHANNEL	6	Parameter: **AMBER**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional colour**

DMX CHANNEL	7	Parameter: **WHITE (Pre-programmed White at diff. color temperature)**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-55	**23**				**No Function**
56-105	**80**				**Full (Red-Green-Blue at Full)**
106-155	**130**				**White DTS**

IF CHANNEL 10 (FUNCTIONS) = CUSTOM WHITE RECALL (Dmx range value 0 - 79)

156-205	**180**	**Custom White Recall**
206-255	**225**	**White CTC (Channel 8 CTC enabled 43 color temp. Correction Macros: 2000°K-7200°K)**

IF CHANNEL 10 (FUNCTIONS) = CUSTOM WHITE CREATE (Dmx range value 80 - 160)

156-205	**180**	**Custom White Create (RGB levels selectable by DMX)**
206-255	**225**	**White CTC (Channel 8 CTC enabled 43 color temp. Correction Macros: 2000°K-7200°K)**

DMX CHANNEL	8	Parameter: **CTC (Color temperature correction)**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function

IF CHANNEL 7 (White) = WHITE CTC (Dmx range value 206 - 255)

0-255	**43 color temp. Correction Macros: 0 = 2000°K / 128 = 5500°K / 255 = 7200°K**

IF CHANNEL 7 (White) = NO FUNCTION (Dmx range value 0 - 43)

0-255	**Smooth RGB linear Hue correction**

DMX CHANNEL	9	Parameter: **COLOUR MACROS**

IF: MENU Up-Down MODE ENTER Up-Down MACr ENTER Up-Down Std ENTER **PLEASE CHECK PAGE 12**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-14					**No Function**
15-29					**Macro 1**
30-44					**Macro 2**
45-59					**Macro 3**
60-74					**Macro 4**
75-89					**Macro 5**
90-104					**Macro 6**
105-119					**Macro 7**
120-134					**Macro 8**
135-149					**Macro 9**
150-164					**Macro 10**
165-179					**Macro 11**
180-194					**Macro 12**
195-209					**Macro 13**
210-225					**Macro 14**
226-239					**Macro 15**
240-255					**Macro 16**

DMX CHANNEL	9	Parameter: **COLOUR MACROS**

IF:

PLEASE CHECK PAGE 12

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-14					**No Function**
15-22					**Macro 1**
23-30					**Macro 2**
31-38					**Macro 3**
39-46					**Macro 4**
47-54					**Macro 5**
55-62					**Macro 6**
63-70					**Macro 7**
71-78					**Macro 8**
79-86					**Macro 9**
87-94					**Macro 10**
95-102					**Macro 11**
103-110					**Macro 12**
111-118					**Macro 13**
119-126					**Macro 14**
127-134					**Macro 15**
135-142					**Macro 16**
143-150					**Rainbow Speed 1 (1 Sec.)**
151-158					**Rainbow Speed 2 (5 Sec.)**
159-166					**Rainbow Speed 3 (10 Sec.)**
167-174					**Rainbow Speed 4 (20 Sec.)**
175-182					**Rainbow Speed 5 (30 Sec.)**
183-190					**Rainbow Speed 6 (60 Sec.)**
191-198					**Rainbow Speed 7 (120 Sec.)**
199-206					**Rainbow Speed 8 (180 Sec.)**
207-214					**Random Speed 1 (0.5 sec.)**
215-222					**Random Speed 2 (1 Sec.)**
223-230					**Random Speed 3 (2 Sec.)**
231-238					**Random Speed 4 (5 Sec.)**
239-246					**Random Speed 5 (10 Sec.)**
247-255					**Random Speed 6 (30 Sec.)**

DMX CHANNEL	10	Parameter: **FUNCTIONS (Recall,Create and Store the Custom white)**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-79		**Custom White Recall (Enable CH 6 for Custom white Recall)**			
80-160		**Custom White Create (Enable CH 6 for Custom white Creation)**			
161-255		**Custom White Store (Store the Custom White created)**			

6 CHANNELS MODE

1 **SHUTTER**
2 **DIMMER**
3 **RED**
4 **GREEN**
5 **BLUE**
6 **AMBER**

DMX CHANNEL	1	Parameter: **SHUTTER**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-9	**5**				**Black-out**
10-19	**14**				**Open**
20-29	**24**				**Black-out**
30-119					**Strobe at variable speed from slow to fast (3400ms-20ms)**
120-149					**Pulse open at variable speed from slow to fast (43s-100ms)**
150-179					**Pulse close at variable speed from slow to fast (43s-100ms)**
180-204	**192**				**Random Strobe (Master and RGBA active)**
205-229	**218**				**Random Strobe (Full)**
230-255	**240**				**Open**

DMX CHANNEL	2	Parameter: **DIMMER**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional dimmer**

DMX CHANNEL	3	Parameter: **RED**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional colour**

DMX CHANNEL	4	Parameter: **GREEN**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional colour**

DMX CHANNEL	5	Parameter: **BLUE**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional colour**

DMX CHANNEL	6	Parameter: **AMBER**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional colour**

NOTE

The information contained in this publication has been carefully prepared and checked. However, no responsibility will be taken for any errors. All rights are reserved and this document cannot be copied, photocopied or reproduced, in part or completely, without prior written consent from D.T.S.. D.T.S. reserves the right to make any aesthetic, functional or design modifications to any of its products without prior notice. D.T.S. assumes no responsibility for the use or application of the products or circuits described herein.

MADE IN ITALY CE

DTS

The Lighting Company

ISO 9001:2000

D.T.S. quality system
is certified to the
ISO 9001:2000 standard

PROUDLY MADE IN ITALY

D.T.S. products are designed
and manufactured at the D.T.S.
plants in Italy

0517I167

D.T.S. Illuminazione s.r.l - Via Fagnano Selve 10-12-14 47843 - Misano Adriatico (RN) Italy
Tel. +39 0541 611131 Fax +39 0541 611111 info@dts-lighting.it www.dts-lighting.it